weight based on the total amount of Aspartame and Acesulfame-K and wherein the maximum particle size of the granules is about 1,400 μm or less and in which the granulated sweetener exhibits a rate of dissolution in water which is greater than that exhibited by granules of Aspartame alone.

The inventors have surprisingly found that the presently claimed granulated sweeteners exhibit a higher dissolution rate as compared to either Aspartame alone or a mixture of Aspartame powder and Acesulfame-K powder.

The cited reference contains no disclosure or suggestion of such a granulated sweetener. Moreover, this reference contains no teaching which would suggest the improved solubility properties of the presently claimed granulated sweeteners. Accordingly, this reference cannot affect the patentability of the present claims.

The rejection of Claims 1-3, 5, 7, and 9-19 under 35 U.S.C. § 103(a) in view of Muhammad et al is respectfully traversed. Muhammad et al disclose certain sweetener compositions which contain Aspartame and Acesulfame-K. However, the sweetener compositions of Muhammad et al differ from those of the present claims in a number of key ways.

First of all, as conceded on page 4 of the Official Action dated October 19, 2001, Muhammad et al is silent in regard to the particle size of the disclosed product. Moreover, contrary to the position taken in the Official Action, the granulated sweeteners having the particle size recited in the present claims are not obvious. As explained in detail in the present specification, when the particle size of the granulated sweetener is 1,400 μm or less the sweetener exhibits an unexpectedly improved dissolution rate (see, e.g., page 5, lines 4-

10, of the specification). There is no teaching in Muhammad et al which would suggest these results.

Secondly, the present claims are directed toward granulated sweeteners, while Muhammad et al is completed unconcerned with granulated sweeteners.

Third, the present claims are unobvious, because they explicitly recite that the claimed sweeteners exhibit a dissolution rate which is greater than that exhibited by granules of Aspartame alone. In sharp contrast, Muhammad et al is concerned with the production of sweeteners which exhibit a delayed release (*see, e.g.*, the Abstract of Muhammad et al). Thus, the presently claimed sweetener compositions exhibit an improved rate of dissolution which could not have been expected from the teachings of Muhammad et al.

In support of the assertion that the presently claimed sweetener compositions exhibit an improved rate of dissolution, Applicants again cite the data presented in Tables 1 and 2 given on pages 11 and 12 of the specification.

Moreover, in further support of the assertion that the presently claimed sweetener compositions exhibit an improved rate of dissolution, Applicants cite the data presented in the duly executed Declaration under 37 C.F.R. § 1.132 of Yuichi Suzuki, one of the named inventors of this application ("Declaration of Suzuki"), which is being filed herewith. As the Examiner will note, the Declaration of Suzuki presents the results of a series of experiments in which the rate of dissolution of a series of mixtures of granules of Aspartame and granules of Aceslfame-K were compared to the dissolution rate of a series of granules of mixtures of Aspartame and Acesulfame-K according to the present claims.

As shown in Table 2 on page 4 of the Declaration of Suzuki, the granules of mixtures of Aspartame and Acesulfame-K, according to the present claims, exhibited markedly shorter

times for dissolution as compared to the corresponding mixtures of granules. Thus, as concluded in the Declaration of Suzuki, by mixing and granulating Aspartame (APM) and Acesulfame-K (ACE-K) according to the invention, the poor solubility (i.e., poor dissolution speed) of APM can be improved markedly, and a sweetener having an excellent sweetness profile can readily be prepared.

As clearly shown by the results presented in Table 2, the dissolution rate of the granules of a mixture of APM and ACE-K is greater than that of a corresponding mixture of granules over a wide range of APM to ACE-K weight ratios and over a wide range of particle sizes.

For example for mixtures which contain 5 % by weight of ACE-K and 95 % by weight of APM and having a particle size of 500 to 1,400 μm, the granules of a mixture exhibit a dissolution rate of 27 minutes, while the mixture of granules exhibits a dissolution rate of 33 minutes.

For mixtures which contain 5 % by weight of ACE-K and 95 % by weight of APM and having a particle size of 300 to 500 μm, the granules of a mixture exhibit a dissolution rate of 8 minutes, while the mixture of granules exhibits a dissolution rate of 17 minutes.

For mixtures which contain 5 % by weight of ACE-K and 95 % by weight of APM and having a particle size of 100 to 300 μm, the granules of a mixture exhibit a dissolution rate of 6 minutes, while the mixture of granules exhibits a dissolution rate of 16 minutes.

For mixtures which contain 5 % by weight of ACE-K and 95 % by weight of APM and having a particle size up to 100 μm, the granules of a mixture exhibit a dissolution rate of 27 minutes, while the mixture of granules exhibits a dissolution rate of 32 minutes.

Similarly, for mixtures which contain 20 % by weight of ACE-K and 80 % by weight of APM and having a particle size of 500 to 1,400 μm, the granules of a mixture exhibit a dissolution rate of 24 minutes, while the mixture of granules exhibits a dissolution rate of 31 minutes.

For mixtures which contain 20 % by weight of ACE-K and 80 % by weight of APM and having a particle size of 300 to 500 μm, the granules of a mixture exhibit a dissolution rate of 11 minutes, while the mixture of granules exhibits a dissolution rate of 17 minutes.

For mixtures which contain 20 % by weight of ACE-K and 80 % by weight of APM and having a particle size of 100 to 300 μm, the granules of a mixture exhibit a dissolution rate of 4 minutes, while the mixture of granules exhibits a dissolution rate of 18 minutes.

For mixtures which contain 20 % by weight of ACE-K and 80 % by weight of APM and having a particle size of up to 100 μm, the granules of a mixture exhibit a dissolution rate of 5 minutes, while the mixture of granules exhibits a dissolution rate of 27 minutes.

For mixtures which contain 50 % by weight of ACE-K and 50 % by weight of APM and having a particle size of 500 to 1,400 μm, the granules of a mixture exhibit a dissolution rate of 13 minutes, while the mixture of granules exhibits a dissolution rate of 25 minutes.

For mixtures which contain 50 % by weight of ACE-K and 50 % by weight of APM and having a particle size of 300 to 500 μm, the granules of a mixture exhibit a dissolution rate of 4 minutes, while the mixture of granules exhibits a dissolution rate of 13 minutes.

For mixtures which contain 50 % by weight of ACE-K and 50 % by weight of APM and having a particle size of 100 to 300 μm, the granules of a mixture exhibit a dissolution rate of 3 minutes, while the mixture of granules exhibits a dissolution rate of 15 minutes.

For mixtures which contain 50 % by weight of ACE-K and 50 % by weight of APM and having a particle size up to 100 μm, the granules of a mixture exhibit a dissolution rate of 4 minutes, while the mixture of granules exhibits a dissolution rate of 22 minutes.

For non-sieved mixtures which contain 90 % by weight of ACE-K and 10 % by weight of APM, the granules of a mixture exhibit a dissolution rate of 4 minutes, while the mixture of granules exhibits a dissolution rate of 24 minutes.

The improved dissolution rate for granules of a mixtures of APM and ACE-K as compared to mixtures of granules of APM and ACE-K is practically significant. As explained on page 3 of the specification, the slow dissolution rate of APM is a significant problem in the use of APM for the manufacture of low-calorie soft drinks. An improvement in the dissolution rate of APM provides an improvement in the process of producing such soft drinks.

The improved dissolution rate for granules of a mixtures of APM and ACE-K as compared to mixtures of granules of APM and ACE-K could not have been expected based on the prior art. There is no teaching in the prior art which would have suggested that granules of a mixture of APM and ACE-K would exhibit an improved dissolution rate as compared to analogous mixtures of granules of APM and ACE-K.

The unexpected nature of the improved solubility properties of the presently claimed sweeteners is established by the clear teachings of Muhammad et al. Specifically, Muhammad et al is concerned with preparing compositions which exhibit a delayed release, which is essentially the opposite result afforded by the presently claimed compositions. Thus, there is nothing in Muhammad et al which could even remotely suggest the improved solubility properties of the presently claimed sweeteners.

Moreover, the fact that Muhammad et al is concerned with producing compositions which exhibit a delayed release of Aspartame and Acesulfame-K would lead the skilled artisan who was trying to improve the dissolution rate of Aspartame and Acesulfame-K completely away from the present invention. In fact, any skilled artisan who was trying to improve the dissolution rate of Aspartame and Acesulfame-K would not even consult the teachings of Muhammad et al.

For all of these reasons, the rejection is improper and should be withdrawn.

Finally, Applicants wish to bring to the Examiner's attention the fact that two Information Disclosure Statements were filed on April 24, 2001, and a third Information Disclosure Statement was filed on September 25, 2001. Applicants respectfully request acknowledgment of those three Information Disclosure Statements and an indication that the references cited therein were considered in the next communication from the PTO. The Examiner is also requested to acknowledge consideration of the documents cited in the International Search Report according to MPEP §609 by express statement in the next communication from the PTO.

Applicants submit that the application is now in condition for allowance, and early notification of such action is earnestly solicited.

Respectfully submitted,

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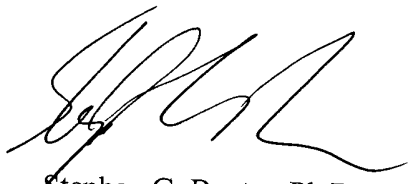

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